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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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BURNS DOANE SWECKER & MATHIS L L P
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER

LUU, THANH X

ART UNIT PAPER NUMBER

2878

DATE MAILED: 01/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/478,372

Applicant(s)

NAKAMURA, KENJI

Examiner

Thanh X Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1, 2, 4, 6, 9, 11, 15 and 16 are objected to because of the following informalities:

In claim 1, line 6, regarding "an object image" it is unclear if this refers to a second object image or the same object image as in line 2. In the next to the last line, it is unclear if Applicant intended to refer to the object or the object image.

Claims 4, 6, 9, 11 and 15 have similar informalities.

In claim 2, "the object" lacks proper antecedent basis. Is "the object image" the same as "the object"? It is also unclear which sensor array is referred to in the term "said sensor array"

In claim 16, "said ara sensor" is misspelled.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is unclear how in its given context a signal series has a position and how a position of a signal be detected. Furthermore, it is unclear what it

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means for "detecting a position of a second photoreception signal series which corresponds to the first photoreception signal series." Each signal series is unique. It is unclear how a second signal series "corresponds" to a first signal series. Similarly, it is unclear how the third signal series "corresponds" to the first signal series. Also, it is unclear what angle is being claimed in the phrase "the magnitude of the angle of the object against said second sensor array". The object is not disposed "against" the second signal array, rather the object image is incident upon the sensor arrays.

Claims 4, 6, 9, 11 and 15 have similar problems.

Regarding claim 5, it is unclear what it means for when an "object is in a predetermined magnitude angle against said second sensor array." It is unclear what angle Applicant is referring to.

Claims 2, 3, 7, 8, 10, 12-14, 16 and 17 are indefinite by virtue of their dependency on an indefinite claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hasegawa et al. (U.S. Patent 5,715,043).

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Regarding claims 1-10, Hasegawa et al. disclose (see Figures 1, 2 and 13) an image sensing device, comprising: a first optical system (1R) for forming an object image; a first sensor array (4R) arranged in an approximate image forming plane of the first optical system for receiving light of the object image; a second optical system (1L) for forming the object image; a second sensor array (4L) arranged in an approximate image forming plane of the second optical system for receiving the light from the object image; a third sensor array (4LA) disposed in proximity to the second sensor array; a signal reader (detector circuit) for reading respective photoreception signal series from respective sensor arrays; a position and angle detector (see Figure 13) for detecting an angle based on the signal series. Hasegawa et al. further disclose (see Figure 13) a distance detector for calculating the object distance based on the images formed on the first and second sensor arrays. Hasegawa et al. also disclose (see Figure 1) the third sensor array is parallel to the second sensor array. An angle is inherently determined by data of relative positional relationship of the optical systems and the sensor arrays. Furthermore, Hasegawa et al. disclose (see Figure 13) a distance corrector for correcting the distance and the region of the second and third sensor arrays overlap each other.

Regarding claims 11-17, Hasegawa et al. disclose (see Figures 2 and 13) an image sensing device used in a distance measuring device, comprising: an optical system for forming an object image; a first sensor array (4LA) arranged in approximate image forming plane of the optical system for receiving light of the object image; a second sensor array (4L) arranged in the approximate forming plane of the optical

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system for receiving light of the object image; a signal reader (detector circuit) for reading first photoreception series from the first sensor array and photoreception signal series from the second sensor array; and an angle detector (41) for detecting the magnitude of an based on the detected position. An angle is inherently determined by data of relative positional relationship of the optical systems and the sensor arrays. Hasegawa et al. also disclose (see Figure 13) the sensor arrays being parallel to one another.

Relevant References

6. The reference Nakamura et al. (U.S. Patent 6,072,564) cited on PTO-892, Notice of References Cited, is made of record because it discloses a three sensor distance measuring device.

Conclusion

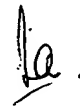
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seungsook Ham, can be reached on (703) 308-4090. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
January 10, 2002



Que T. Le
Primary Examiner